

100
FIGURE 1

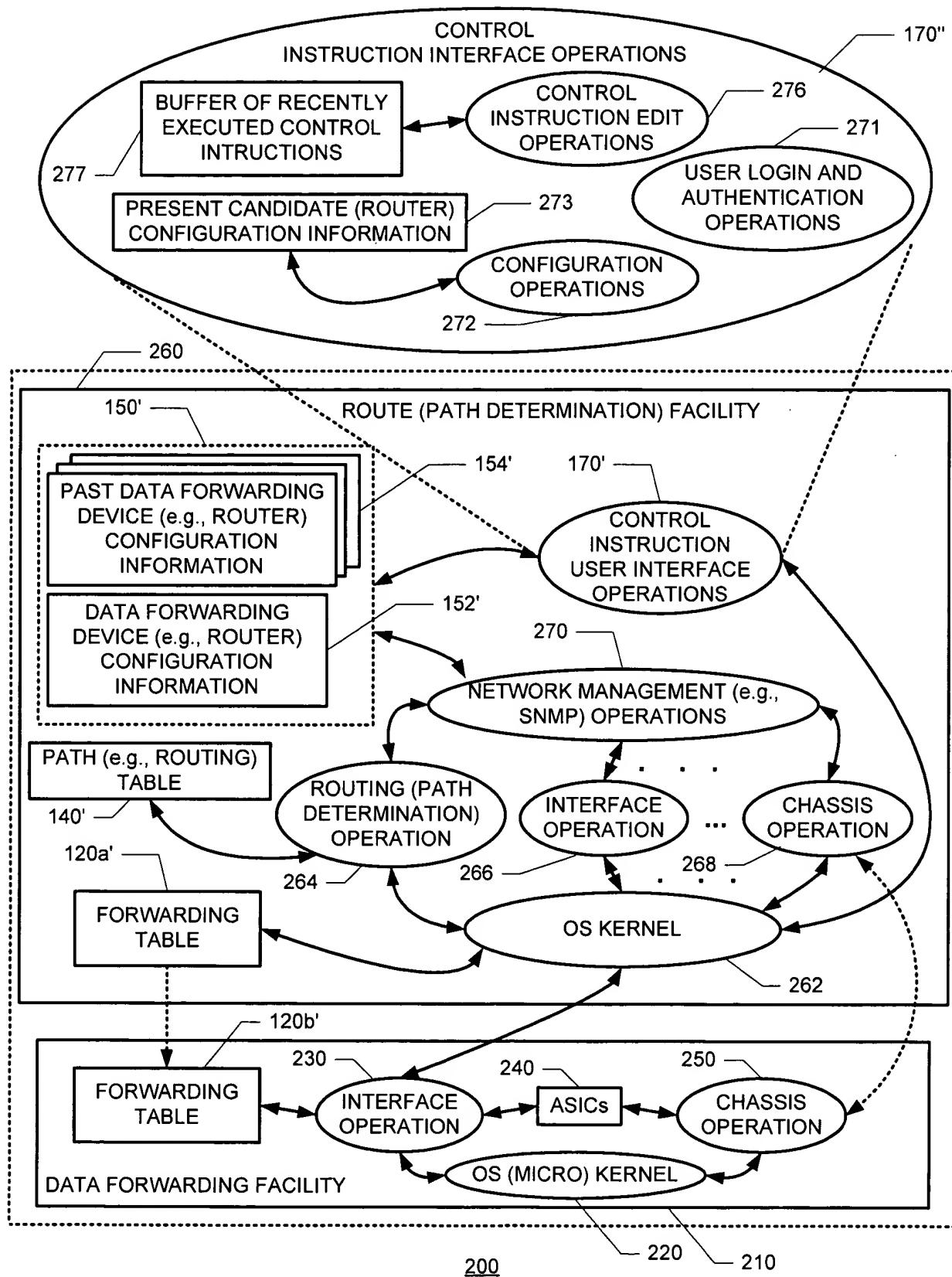


FIGURE 2

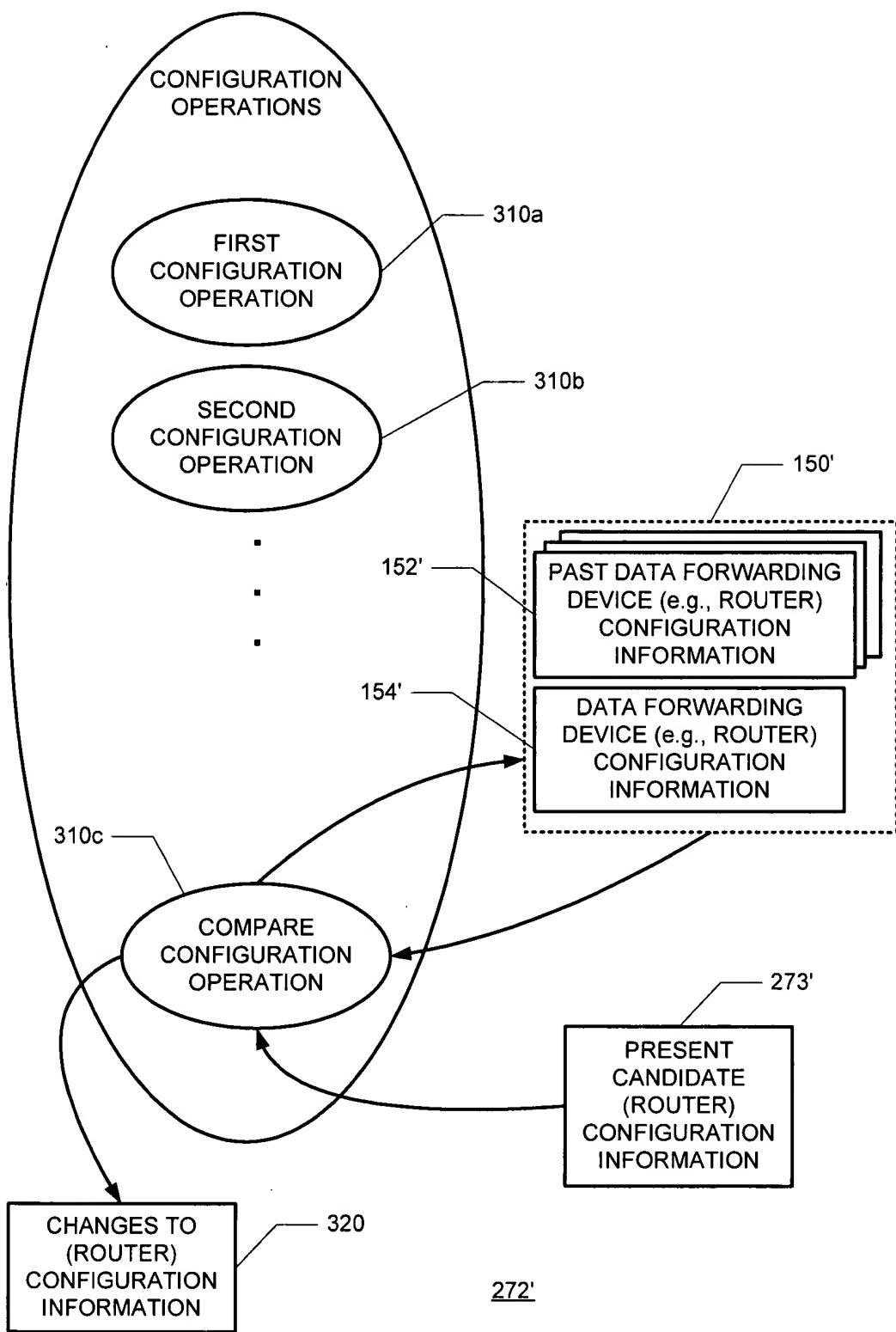


FIGURE 3

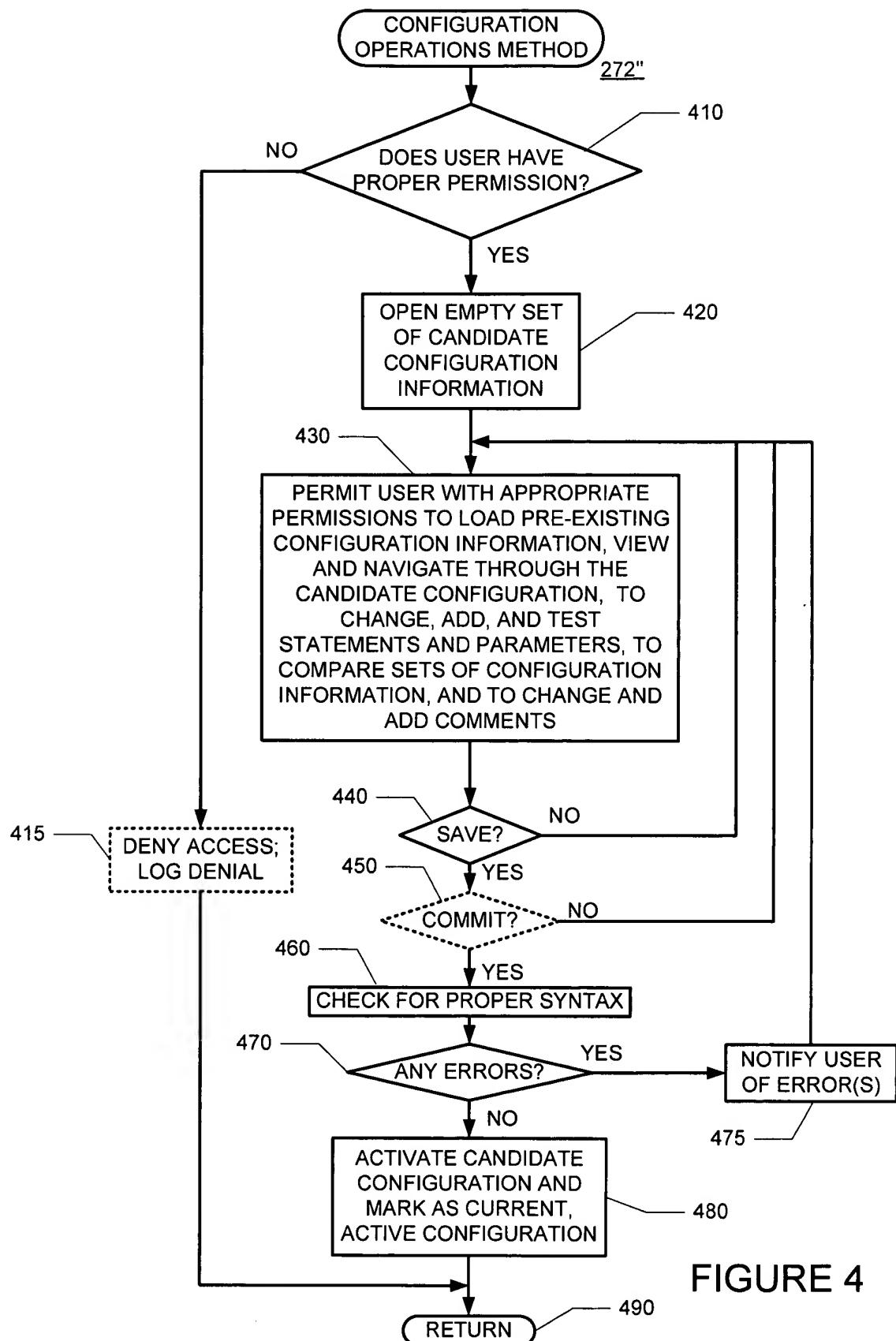


FIGURE 4

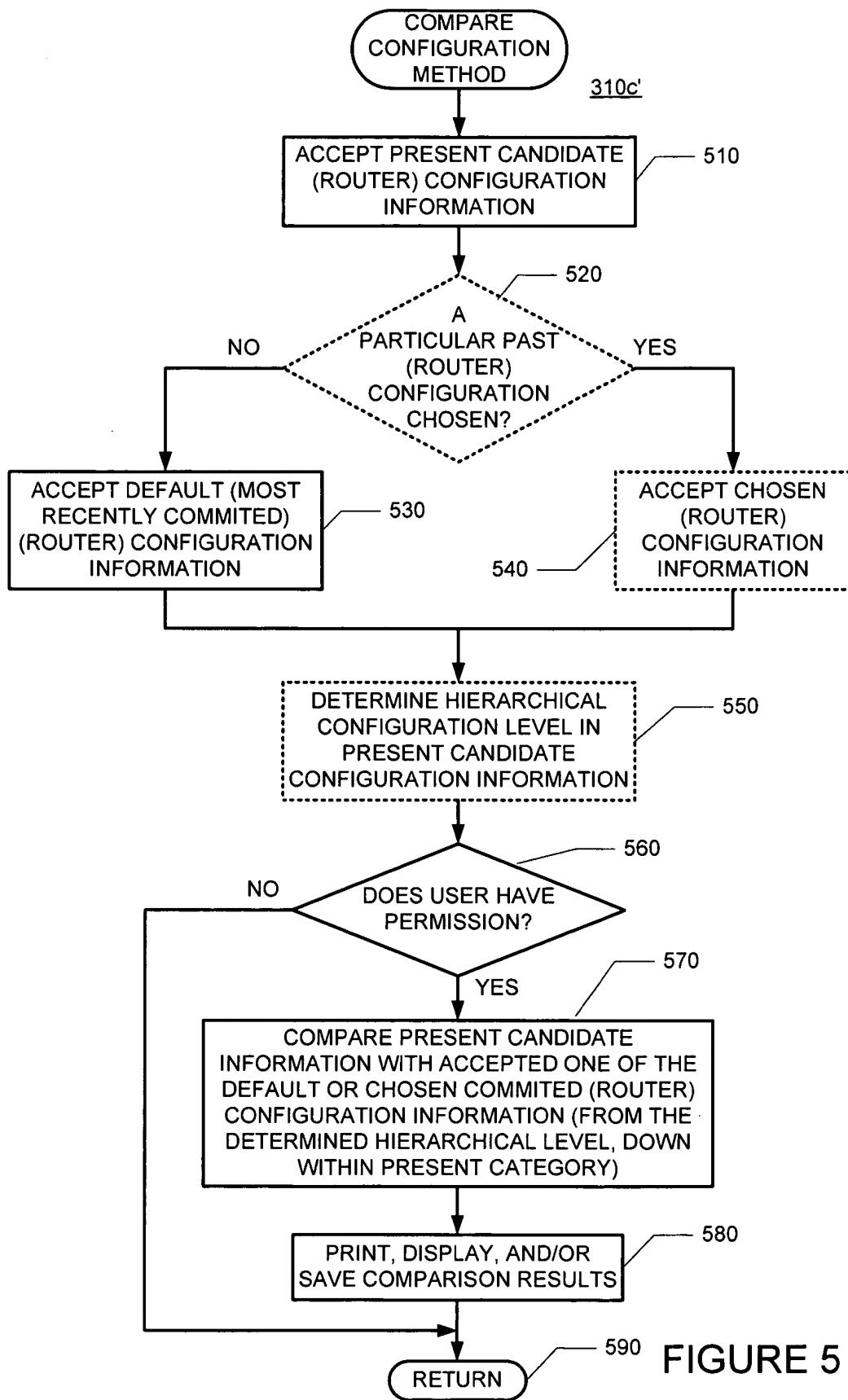
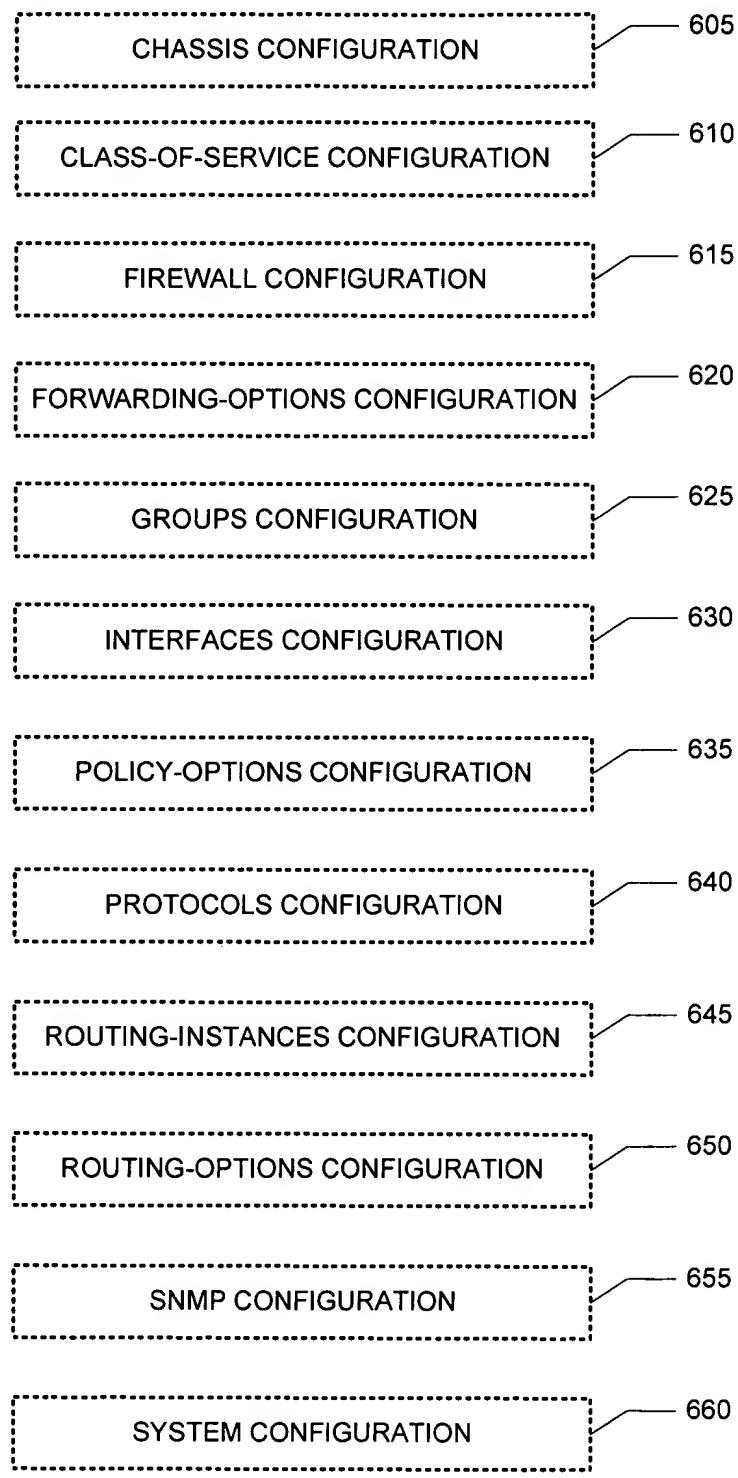


FIGURE 5

ROUTER CONFIGURATION FILE



152"

FIGURE 6

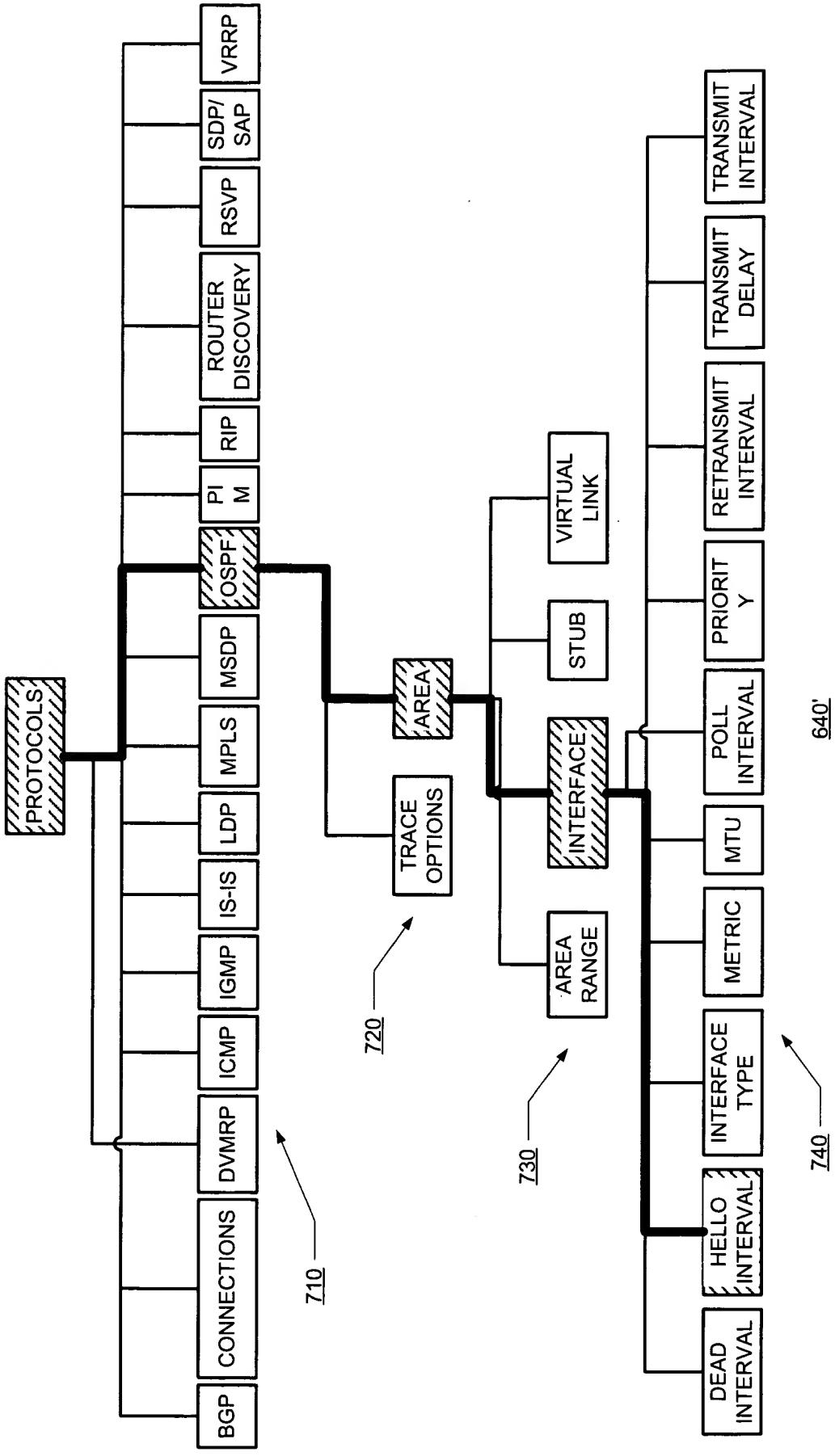


FIGURE 7

[edit chassis] Hierarchy Level

```
chassis {
    alarm {
        interface-type {
            alarm-name (red | yellow | ignore);
        }
    }
    filter-check days;
    fpc slot-number{
        pic pic-number{
            framing (sdh | sonet);
            no-concatenate;
        }
    }
    (no-source-route | source-route);
    redundancy {
        routing-engine slot-number (master | backup | disabled );
        ssb slot-number (always | preferred);
    }
} # End of [edit chassis] hierarchy level
```

FIGURE 8

[edit class-of-service] Hierarchy Level

```
class-of-service {
    input {
        fpc fpc-number {
            precedence-map map-name;
        }
        interfaces {
            interface-name {
                lnet-precedence-map;
                mpls-cos-map;
                unit unit-number {
                    output-queue queue-number;
                }
            }
        }
        precedence-map map-name {
            bits precedence-bit output-queue queue-number;
        }
    }
    output {
        drop-profile profile-name {
            stream-profile {
                fillLevel fill-percentage drop-probability probability-percentage;
            }
            plp-set-queue-profile {
                fillLevel fill-percentage drop-probability probability-percentage;
            }
            plp-clear-queue-profile {
                fill-level fill-percentage drop-probability probability-percentage;
            }
        }
        fpc fpc-number {
            drop-profile profile-name;
        }
    }
    Interfaces {
        interface-name {
            transmit-queues {
                output-queue queue-number bandwidth percentage;
            }
            weighted-round-robin {
                output-queue queue-number weight percentage;
            }
        }
        unit unit-number {
            precedence-rewrite {
                output-queue queue-number {
                    plp-clear rewrite-bits precedence-bit;
                    plp-set rewrite-bits precedence-bit;
                }
            }
        }
    }
}
policy {
    class class-name {
        classification-override {
            output-queue queue-number;
        }
    }
}
) # End of [edit class-of-service] hierarchy level
```

FIGURE 9

[edit firewall] Hierarchy Level

```
firewall {
    filter filter-name {
        term term-name {
            from {
                match-conditions;
            }
            then {
                action;
                action-modifiers;
            }
        }
    }
} # End of [edit firewall] hierarchy level
```

FIGURE 10

[edit forwarding-options] Hierarchy Level

```
forwarding-options {
    sampling {
        disable;
        input {
            family inet {
                rate number;
                run-length number;
            }
        }
        output {
            cflowd hostname {
                engine-id idnumber;
                (local-dump | no-local-dump);
                port portnumber;
                version format;
            }
            file {
                filename filename;
                files number;
                size bytes;
                (stamp | no-stamp);
                (world-readable | no-world-readable);
            }
        }
        traceoptions {
            file filename {
                files number;
                size bytes;
                (world-readable | no-world-readable);
            }
        }
    }
} #End of [edit forwarding-options] hierarchy level
```

FIGURE 11

[edit groups] Hierarchy Level

```
groups {
    group-name {
        configuration-data;
    }
} #End of [edit groups] hierarchy level
```

FIGURE 12

[edit interfaces] Hierarchy Level

```
interfaces {
    traceoptions {
        file filename <size size> <files number>;
    }
    interface-name {
        disable;
        atm-options {
            vpi vpi-identifier max-vcs vcs-value;
            ilmi;
        }
        clocking clock-source;
        dce;
        description text;
        e1-options {
            fcs (32 | 16);
            framing (g704 | unframed);
            idle-cycle-flag (flags | ones);
            loopback (local | remote);
            start-end-flag (shared | filler);
            timeslots slotnumber;
        }
        e3-options {
            bert-algorithm algorithm;
            bert-error-rate rate;
            bert-period seconds;
            compatibility-mode (digitalLink | kentrox);
            fcs (32 | 16);
            idle-cycle-flag value;
            loopback (local | remote);
            (payload-scrambler | no-payload-scrambler);
            start-end-flag value;
        }
        encapsulation type;
        fastether-options {
            (loopback | no-loopback);
            source-address-filter {
                mac-address;
            }
            (source-filtering | no-source-filtering);
        }
        gigether-options {
            flow-control;
            (loopback | no-loopback);
            source-address-filter {
                mac-address;
            }
            (source-filtering | no-source-filtering);
        }
        hold-time seconds;
        link-mode mode;
        mac mac-address;
        mtu bytes;
        no-keepalives;
        no-traps;
        receive-bucket {
            overflow (tag | discard);
            rate speed;
            threshold number;
        }
    }
}
```

FIGURE 13a

```

sonet-options (
    aps {
        advertise-interval milliseconds;
        authentication-key key;
        force;
        hold-time milliseconds;
        lockout;
        neighbor address;
        paired-group group-name;
        protect-circuit group-name;
        request;
        revert-time seconds;
        working-circuit group-name;
    }
    bytes {
        e1-quiet value;
        f1 value;
        f2 value;
        s1 value;
        z3 value;
        z4 value;
    }
    fcs (32 | 16);
    loopback (local | remote);
    path-trace trace-string;
    (payload-scrambler | no-payload-scrambler);
    rfc-2615;
    (z0-increment | no-z0-Increment);
}
speed (10m | 100m);
t1-options {
    buildout (0-133 | 133-266 | 266-399 | 399-532 | 532-655);
    byte-encoding (nx64 | nx56);
    fcs (32 | 16);
    framing (sf | esf);
    idle-cycle-flags (flags | ones);
    invert-data;
    line-encoding (ami | b8zs);
    loopback (local | remote);
    start-end-flag (shared | filler);
    timeslots slot-number;
}
t3-options {
    bert-algorithm algorithm;
    bert-error-rate rate;
    bert-period seconds;
    (cbit-parity | no-cbit-parity);
    compatibility-mode (digital-link | kentróx | larscom) <substrate value>;
    fcs (32 | 16);
    (feac-loop-respond | no-feac-loop-respond);
    idle-cycle-flag value;
    (long-buildout | no-long-buildout);
    loopback (local | remote);
    (payload-scrambler | no-payload-scrambler);
    start-end-flag value;
}
traceoptions {
    flag flag <flag-modifier> <disable>;
}
transmit-bucket {
    overflow (tag | discard);
    rate speed;
}

```

FIGURE 13b

```

        threshold number;
    }
    vlan-tagging;
    unit logical-unit-number {
        disable;
        dcli identifier;
        encapsulation type;
        inverse-arp;
        multicast-dlci dlci-identifier;
        multicast-vci vpi-identifier.vci-identifier;
        multipoint;
        no-traps;
        oam-liveness {
            up-count cells;
            down-count cells;
        }
        oam-period seconds;
        point-to-point;
        shaping {
            (cbr rate | vbr peak rate sustained rate burst length);
            queue-length number;
        }
        tunnel {
            source address;
            destination address;
            ttl number;
        }
        vci vpi-identifier.vci-identifier;
        vlan-id number;
        family family {
            filter {
                input filter-name;
                output filter-name;
                group filter-group-number;
            }
            mtu size;
            multicasts-only;
            no-redirects;
            primary;
            address address {
                arp ip-address mac mac-address <publish>;
                destination address;
                broadcast address;
                multipoint-destination destination-address (dlci dlci-identifier | vci vci-identifier);
                multipoint-destination destination-address {
                    inverse-arp;
                    oam-liveness {
                        up-count cells;
                        down-count cells;
                    }
                    oam-period seconds;
                    shaping {
                        (cbr rate | vbr peak rate sustained rate burst length);
                        queue-length number;
                    }
                    vci vpi-identifier.vci-identifier;
                }
            }
            primary;
            preferred;
        }
    }
}

```

FIGURE 13c

```
vrrp-group group-number {
    virtual-address { addresses };
    priority number;
    advertise-interval seconds;
    authentication-type authentication;
    authentication-key key;
    (preempt | no-preempt);
    track {
        interface interface-name priority-cost cost;
    }
}
}
}
}
} # End of [edit interfaces] hierarchy level
```

FIGURE 13d

[edit policy-options] Hierarchy Level

```
policy-options {
    as-path name regular-expression;
    community name members [ community-ids ];
    damping name {
        disable;
        half-life minutes;
        max-suppress minutes;
        reuse-number;
        suppress number;
    }
    policy-statement policy-name {
        term term-name {
            from {
                match-conditions;
                route-filter destination-prefix match-type <actions>;
                prefix-list name;
            }
            to {
                match-conditions;
            }
            then actions;
        }
    }
    prefix-list name {
        ip-addresses;
    }
} # End of [edit policy-options] hierarchy level
```

FIGURE 14

[edit protocols] Hierarchy Level

```
protocols {  
    BGP      bgp {  
        advertise-inactive;  
        authentication-key key;  
        cluster cluster-identifier;  
        damping;  
        description text-description;  
        disable;  
        export [policy-name];  
    }  
}
```

FIGURE 15a

```

family inet {
    (any | unicast | multicast) {
        prefix-limit {
            maximum number;
            teardown <percentage>;
        }
    }
    hold-time seconds;
    import [policy-name];
    keep (all | none);
    local-address address;
    local-as autonomous-system <private>;
    local-preference local-preference;
    log-updown;
    metric-out metric;
    multihop <ttl-value>;
    no-aggregator-id;
    no-client-reflect;
    out-delay seconds;
    passive;
    path-selection (cisco-non-deterministic | always-compare-med);
    peer-as autonomous-system;
    preference preference;
    remove-private;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
}
group group-name {
    advertise-inactive;
    allow [network/masklen];
    authentication-key key;
    cluster cluster-identifier;
    damping;
    description text-description;
    export [policy-name];
    family inet {
        (any | unicast | multicast) {
            prefix-limit {
                maximum number;
                teardown <percentage>;
            }
        }
    }
    hold-time seconds;
    import [policy-name];
    keep (all | none);
    local-address address;
    local-as autonomous-system <private>;
    local-preference local-preference;
    log-updown;
    metric-out metric;
    multihop <ttl-value>;
    multipath;
    no-aggregator-id;
    no-client-reflect;
    out-delay seconds;
    passive;
    peer-as autonomous-system;
}

```

FIGURE 15b

```

preference preference;
protocol protocol;
remove-private;
traceoptions {
    file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
    flag flag <flag-modifier> <disable>;
}
type type;
neighbor address {
    advertise-inactive;
    authentication-key key;
    cluster cluster-identifier;
    damping;
    description text-description;
    export [policy-name];
    family inet {
        (any | unicast | multicast) {
            prefix-limit {
                maximum number;
                teardown <percentage>;
            }
        }
    }
    hold-time seconds;
    import policy-name;
    keep (all | none);
    local-address address;
    local-as autonomous-system <private>;
    local-preference local-preference;
    log-updown;
    metric-out metric;
    multihop <ttl-value>;
    multipath;
    no-aggregator-id;
    no-client-reflect;
    out-delay seconds;
    passive;
    peer-as autonomous-system;
    preference preference;
    protocol protocol;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
}
}
} # End of [edit protocols bgp] hierarchy level

```

FIGURE 15c

Connections	<pre> connections (interface-switch connection-name { interface <i>interface-name.unit-number</i>; interface <i>interface-name.unit-number</i>; } lsp-switch connection-name { transmit-lsp <i>label-switched-path</i>; receive-lsp <i>label-switched-path</i>; } remote-interface-switch connection-name { interface <i>interface-name.unit-number</i>; transmit-lsp <i>label-switched-path</i>; receive-lsp <i>label-switched-path</i>; }) # End of [edit protocols connections] hierarchy level </pre>
DVMRP	<pre> dvmrp { disable; export [<i>policy-names</i>]; import [<i>policy-names</i>]; rib-group <i>group-name</i>; traceoptions { file name <replace> <size size> <files number> <no-stamp> <(world-readable no-world-readable)>; flag <i>flag</i> <flag-modifier> <disable>; } interface <i>interface-name</i> { disable; hold-time <i>seconds</i>; metric <i>metric</i>; }) # End of [edit protocols dvmrp] hierarchy level </pre>
IGMP	<pre> igmp { traceoptions { file name <replace> <size size> <files number> <no-stamp> <(world-readable no-world-readable)>; flag <i>flag</i> <flag-modifier> <disable>; } query-interval <i>seconds</i>; query-last-member-interval <i>seconds</i>; query-response-interval <i>seconds</i>; robust-count <i>seconds</i>; interface <i>interface-name</i> { disable; version <i>seconds</i>; }) # End of [edit protocols igmp] hierarchy level </pre>
IS-IS	<pre> isis { disable; authentication-key <i>key</i>; authentication-type <i>authentication</i>; export [<i>policy-names</i>]; level <i>level-number</i> { authentication-key <i>key</i>; authentication-type <i>authentication</i>; external-preference <i>preference</i>; preference <i>preference</i>; wide-metrics-only; } } </pre>

FIGURE 15d

```

lsp-lifetime seconds;
no-authentication-check;
overload <timeout seconds>;
reference-bandwidth reference-bandwidth;
traffic-engineering {
    disable;
    shortcuts;
}
traceoptions {
    file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
    flag flag <flag-modifier> <disable>;
}
interface interface-name {
    disable;
    csnp-interval seconds;
    hello-authentication-key key;
    hello-authentication-type authentication;
    lisp-interval milliseconds;
    mesh-group (value | blocked);
    passive;
    level level-number {
        disable;
        hello-authentication-key key;
        hello-authentication-type authentication;
        hello-interval seconds;
        hold-time seconds;
        metric metric;
        passive;
        priority priority;
        te-metric metric;
    }
}
} # End of [edit protocols isis] hierarchy level

LDP
ldp {
    interface interface-name {
        disable;
        hello-interval seconds;
        hold-time seconds;
    }
    keepalive-interval seconds;
    keepalive-timeout seconds;
    preference preference;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
} # End of [edit protocols ldp] hierarchy level

MPLS
mpls {
    disable;
    no-propagate-ttl;
    admin-groups {
        group-name group-value;
    }
    log-updown {
        (syslog | no-syslog);
        (trap | no-trap);
    }
}

```

FIGURE 15e

```

optimize-aggressive;
path path-name {
    disable;
    address <strict | loose>;
}
statistics {
    file filename size size files number <no-stamp>;
    interval seconds;
}
traceoptions {
    file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
    flag flag <flag-modifier> <enable>;
}
traffic-engineering (bgp | bgp-igp);
label-switched-path lsp-path-name {
    disable;
    to address;
    from address;
    adaptive;
    admin-group {
        include [ group-names ];
        exclude [ group-names ];
    }
    bandwidth bps;
    class-of-service class-of-service;
    fast-reroute {
        bandwidth bps;
        hop-limit number;
        include group-names;
        exclude group-names;
    }
    hop-limit number;
    ldp-tunneling;
    metric metric;
    no-cspf;
    no-decrement-ttl;
    optimize-timer seconds;
    preference preference;
    priority setup-priority hold-priority;
    (random | least-fill | most-fill);
    (record | no-record);
    retry-limit number;
    retry-timer seconds;
    standby;
    primary path-name {
        adaptive;
        admin-group {
            include [ group-names ];
            exclude [ group-names ];
        }
        bandwidth bps;
        class-of-service class-of-service;
        hop-limit number;
        no-cspf;
        optimize-timer seconds;
        preference preference;
        priority setup-priority hold-priority;
        (record | no-record);
        standby;
    }
}

```

FIGURE 15f

```

secondary path-name {
    adaptive;
    admin-group {
        include group-names;
        exclude group-names;
    }
    bandwidth bps;
    class-of-service class-of-service;
    hop-limit number;
    no-cspf;
    optimize-timer seconds;
    preference preference;
    priority setup-priority hold-priority;
    (record | no-record);
    standby;
}
install {
    destination-prefix/prefix-length <active>;
}
)
interface (interface-name | all) {
    disable;
    admin-group {
        group-name;
    }
    label-map in-label {
        (nexthop (address | interface-name | address/interface-name)) | (reject | discard);
        (pop | (swap <out-label>));
        class-of-service class-of-service;
        preference preference;
        type type;
    }
}
static-path inet {
    prefix {
        nexthop (address | interface-name | address/interface-name);
        push out-label;
        class-of-service class-of-service;
        preference preference;
    }
}
)
# End of [edit protocols mpis] hierarchy level

```

```

MSDP msdp {
    disable;
    export { policy-names };
    import { policy-names };
    rib-group group-name;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
    peer address {
        disable;
        local-address address;
        export { policy-names };
        import { policy-names };
        traceoptions {
            file name <replace> <size size> <files number> <no-stamp>
                <(world-readable | no-world-readable)>;
        }
    }
}

```

FIGURE 15g

```

        flag flag <flag-modifier> <disable>;
    }
}
group group-name {
    disable;
    export [ policy-names ];
    import [ policy-names ];
    local-address address;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
}
peer address {
    disable;
    export [ policy-names ];
    import [ policy-names ];
    local-address address;
    mode <(mesh-group | standard)>;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
}
}
#End of [edit protocols msdp] hierarchy level

OSPF
ospf {
    disable;
    export [ policy-names ];
    external-preference preference;
    preference preference;
    reference-bandwidth reference-bandwidth;
    traffic-engineering{
        no-topology;
        shortcuts;
    }
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
}
area area-Id {
    area-range network/masklen <restrict>;
    authentication-type authentication;
    Interface interface-name {
        disable;
        authentication-key key <key-id identifier>;
        dead-interval seconds;
        hello-interval seconds;
        interface-type type;
        metric metric;
        neighbor address <eligible>;
        passive;
        poll-interval seconds;
        priority priority;
        retransmit-interval seconds;
        transit-delay seconds;
        transmit-interval seconds;
    }
}

```

FIGURE 15h

```

nssa {
    area-range network/masklen <restrict>;
    default-metric metric;
    (summaries | no-summaries);
}
stub <default-metric metric> <(summaries | no-summaries)>;
virtual-link neighbor-id router-id transit-area area-id {
    disable;
    authentication-key key <key-id identifier>;
    dead-interval seconds;
    hello-interval seconds;
    retransmit-interval seconds;
    transit-delay seconds;
}
}
} # End of [edit protocols ospf] hierarchy level

PIM pim {
    disable;
    dense-groups {
        addresses;
    }
    rib-group group-name;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
    interface interface-name {
        disable;
        mode (dense | sparse | sparse-dense);
        priority number;
        version version;
    }
    rp {
        local {
            disable;
            address address;
            group-ranges {
                destination-mask;
            }
            hold-time seconds;
            priority number;
        }
        auto-rp (announce | discovery | mapping);
        bootstrap-priority number;
        static {
            address address {
                version version;
                group-ranges {
                    destination-mask;
                }
            }
        }
    }
}
} # End of [edit protocols pim] hierarchy level

RIP rip {
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
}

```

FIGURE 15i

```

        flag flag <flag-modifier> <disable>;
    }
    authentication-key password;
    authentication-type type;
    (check-zero | no-check-zero);
    import [policy];
    message-size number;
    metric-in metric;
    receive receive-options;
    send send-options;
    group group-name {
        export [policy];
        metric-out metric;
        preference preference;
        neighbor neighbor-name {
            authentication-key password;
            authentication-type type;
            (check-zero | no-check-zero);
            import [policy];
            message-size number;
            metric-in metric;
            receive receive-options;
            send send-options;
        }
    }
} # End of [edit protocols rip] hierarchy level

```

Router Discovery

```

router-discovery {
    disable;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
    interface .interface-name {
        min-advertisement-interval seconds;
        max-advertisement-interval seconds;
        lifetime seconds;
    }
    address address (
        (advertise | ignore);
        (broadcast | multicast);
        (priority priority | ineligible);
    }
} # End of [edit protocols router-discovery] hierarchy level

```

RSVP

```

rsvp {
    disable;
    keep-multiplier number;
    refresh-time seconds;
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
        <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
    interface interface-name {
        disable;
        (aggregate | no-aggregate);
        authentication-key key;
        bandwidth bps;
    }
}

```

FIGURE 15j

```
        hello-interval seconds;
        subscription percentage;
    }
} # End of [edit protocols rsvp] hierarchy level

SDP/SAP    sap {
    disable;
    listen <address> <port port>;
} # End of [edit protocols sap] hierarchy level

VRRP      traceoptions {
    flag flag;
} # End of [edit protocols vrrp] hierarchy level

} # End of [edit protocols] hierarchy level
```

FIGURE 15k

[edit routing-instances] Hierarchy Level

```
[edit]
routing-instances routing-instance-name {
    interface interface-name;
    protocols {
        ospf {
            ospf-configuration;
        }
    }
    routing-options {
        aggregate {
            defaults {
                (active | passive);
                as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                    <aggregator as-number in-address>;
                community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
                (full | brief);
                (metric | metric2 | metric3 | metric4) value;
                (preference | preference2 | color | color2) preference;
                (tag | tag2) string;
            }
        }
        autonomous-system autonomous-system <loops number>;
        confederation confederation-autonomous-system members autonomous-system;
        fate-sharing {
            group group-name;
            cost value;
            from address [to address];
        }
        forwarding-table {
            export { policy-names };
        }
        generate {
            defaults {
                (active | passive);
                as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                    <aggregator as-number in-address>;
                community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
                (full | brief);
                (metric | metric2 | metric3 | metric4) value;
                (preference | preference2 | color | color2) preference;
                (tag | tag2) string;
            }
        }
    }
}
```

FIGURE 16a

```

interface-routes {
    rib-group routing-table-name;
}
martians {
    destination-prefix match-type <allow>;
}
multicast {
    scope scope-name {
        interface interface-name;
        prefix destination-prefix;
    }
}
options {
    syslog (level level | upto level);
}
rib routing-table {
    aggregate {
        defaults {
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
            (full | brief);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (tag | tag2) string;
        }
        route destination-prefix {
            policy policy-name;
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
            (full | brief);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (tag | tag2) string;
        }
        generate {
            defaults {
                (active | passive);
                as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                    <aggregator as-number in-address>;
                community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
                (full | brief);
                (metric | metric2 | metric3 | metric4) value;
                (preference | preference2 | color | color2) preference;
                (tag | tag2) string;
            }
        }
    }
}
martians {
    destination-prefix match-type <allow>;
}

```

FIGURE 16b

```

static {
    defaults {
        (active | passive);
        as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
            <aggregator as-number in-address>;
        community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
        (install | no-install);
        (metric | metric2 | metric3 | metric4) value;
        (preference | preference2 | color | color2) preference;
        (readvertise | no-readvertise);
        (no-retain | retain);
        (tag | tag2) string;
    }
    route destination-prefix {
        policy policy-name;
        (active | passive);
        as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
            <aggregator as-number in-address>;
        community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
        (full | brief);
        (metric | metric2 | metric3 | metric4) value;
        (preference | preference2 | color | color2) preference;
        (tag | tag2) string;
    }
}
rib-groups {
    group-name {
        import-rib [ group-name ];
        export-rib group-name;
    }
}
route-record;
router-id address;
static {
    defaults {
        (active | passive);
        as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
            <aggregator as-number in-address>;
        community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
        (install | no-install);
        (metric | metric2 | metric3 | metric4) value;
        (preference | preference2 | color | color2) preference;
        (readvertise | no-readvertise);
        (no-retain | retain);
        (tag | tag2) string;
    }
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
}
}

```

FIGURE 16c

[edit routing-options] Hierarchy Level

```
routing-options {
    aggregate {
        defaults {
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
            (full | brief);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (tag | tag2) string;
        }
        route destination-prefix {
            policy policy-name;
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
            (full | brief);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (tag | tag2) string;
        }
    }
    autonomous-system autonomous-system <loops number>;
    confederation confederation-autonomous-system members autonomous-system;
    forwarding-table {
        export { policy-names };
    }
    generate {
        defaults {
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
            (full | brief);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (tag | tag2) string;
        }
        route destination-prefix{
            policy policy-name;
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
            (full | brief);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (tag | tag2) string;
        }
    }
    interface-routes {
        rib-group routing-table-name;
    }
    martians {
        destination-prefix match-type <allow>;
    }
}
```

FIGURE 17a

```

multicast {
    scope scope-name {
        interface interface-name;
        prefix destination-prefix;
    }
}
options {
    syslog (level level | upto level);
}
rib routing-table {
    static {
        defaults {
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
            (install | no-install);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (readvertise | no-readvertise);
            (no-retain | retain);
            (tag | tag2) string;
        }
        route destination-prefix {
            next-hop;
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
            (install | no-install);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (readvertise | no-readvertise);
            (no-retain | retain);
            (tag | tag2) string;
        }
        aggregate {
            defaults {
                (active | passive);
                as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                    <aggregator as-number in-address>;
                community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
                (full | brief);
                (metric | metric2 | metric3 | metric4) value;
                (preference | preference2 | color | color2) preference;
                (tag | tag2) string;
            }
            route destination-prefix {
                policy policy-name;
                (active | passive);
                as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                    <aggregator as-number in-address>;
                community ([ community-ids ] | no-advertise | no-export | no-export-subconfed | none);
                (full | brief);
                (metric | metric2 | metric3 | metric4) value;
                (preference | preference2 | color | color2) preference;
                (tag | tag2) string;
            }
        }
    }
}

```

FIGURE 17b

```

        generate {
            defaults {
                (active | passive);
                as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                    <aggregator as-number in-address>;
                community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
                (full | brief);
                (metric | metric2 | metric3 | metric4) value;
                (preference | preference2 | color | color2) preference;
                (tag | tag2) string;
            }
            route destination-prefix {
                policy policy-name;
                (active | passive);
                as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                    <aggregator as-number in-address>;
                community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
                (full | brief);
                (metric | metric2 | metric3 | metric4) value;
                (preference | preference2 | color | color2) preference;
                (tag | tag2) string;
            }
        }
        martians {
            destination-prefix match-type <allow>;
        }
    }
    rib-groups {
        group-name {
            import-rib { group-name };
            export-rib group-name;
        }
    }
    router-id address;
    static {
        defaults {
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
            (install | no-install);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (readvertise | no-readvertise);
            (no-retain | retain);
            (tag | tag2) string;
        }
        route destination-prefix {
            next-hop;
            (active | passive);
            as-path <as-path> <origin (egp | igp | incomplete | none)> <atomic-aggregate>
                <aggregator as-number in-address>;
            community ({ community-ids } | no-advertise | no-export | no-export-subconfed | none);
            (install | no-install);
            (metric | metric2 | metric3 | metric4) value;
            (preference | preference2 | color | color2) preference;
            (readvertise | no-readvertise);
            (no-retain | retain);
            (tag | tag2) string;
        }
    }
    traceoptions {
        file name <replace> <size size> <files number> <no-stamp>
            <(world-readable | no-world-readable)>;
        flag flag <flag-modifier> <disable>;
    }
} # End of [edit routing-options] hierarchy level

```

FIGURE 17c

[edit snmp] Hierarchy Level

```
snmp {
    description description;
    location location;
    contact contact;
    interface [ Interface-names ];
    community community-name {
        authorization authorization;
        clients {
            default restrict;
            address <restrict>;
        }
    }
    trap-group group-name {
        categories category;
        targets {
            address;
        }
        version version;
    }
    traceoptions {
        file <files number> <size size>;
        flag flag <disable>;
    }
} # End of [edit snmp] hierarchy level
```

FIGURE 18

[edit system] Hierarchy Level

```
system {
    authentication-order [ authentication-methods ];
    backup-router address <destination destination-address>;
    compress-configuration-files;
    default-address-selection;
    dhcp-relay (server address | disable);
    diag-port-authentication (encrypted-password "password" | plain-text-password);
    domain-name domain-name;
    domain-search [domain-list];
    host-name host-name;
    location {
        altitude feet;
        country-code code;
        hcoord horizontal-coordinate;
        lata service-area;
        latitude degrees;
        longitude degrees;
        npa-nxx number;
        postal-code postal-code;
        vcoord vertical-coordinate;
    }
    login {
        message text;
        class class-name {
            allow-commands "regular-expression";
            deny-commands "regular-expression";
            idle-timeout minutes;
            permissions [ permissions ];
        }
        user user-name {
            full-name complete-name;
            uid uid-value;
            class class-name;
            authentication {
                (encrypted-password "password" | plain-text-password);
                ssh-rsa "public-key";
            }
        }
    }
    name-server(
        address;
    )
    no-redirects;
    ntp {
        authentication-key key-number type type value password;
        boot-server address;
        broadcast <address> <key key-number> <version value> <ttl value>;
        broadcast-client;
        multicast-client <address>;
        peer address <key key-number> <version value> <prefer>;
        server address <key key-number> <version value> <prefer>;
        trusted-key [key-numbers];
    }
    ports {
        auxiliary {
            insecure;
            speed baud-rate;
            type terminal-type;
        }
        console {
            insecure;
            speed baud-rate;
            type terminal-type;
        }
    }
}
```

FIGURE 19a

```

        }
    }

processes {
    inet-process (enable | disable);
    interface-control (enable | disable);
    mib-process (enable | disable);
    ntp (enable | disable);

    routing (enable | disable);
    snmp (enable | disable);
    watchdog (enable | disable) <timeout seconds>;
}

radius-server server-address {
    port number;
    retry number;
    secret password;
    timeout seconds;
}

root-authentication {
    (encrypted-password "password" | plain-text-password);
    ssh-rsa "public-key";
}

services {
    finger <connection-limit limit> <rate-limit limit>;
    ssh <connection-limit limit> <rate-limit limit>;
    telnet <connection-limit limit> <rate-limit limit>;
}

static-host-mapping {
    host-name {
        inet [ address ];
        sysid system-identifier;
        alias [ alias ];
    }
}

syslog {
    file filename {
        facility level;
        archive {
            files number;
            size size;
            (world-readable | no-world-readable);
        }
    }
}

host hostname {
    facility level;
    facility-override facility;
    log-prefix string;
}

user (username | *) {
    facility level;
}

console {
    facility level;
}

archive {
    files number;
    size size;
    (world-readable | no-world-readable);
}

tacplus-server server-address {
    secret password;
    single-connection;
    timeout seconds;
}

time-zone time-zone;
}) # End of {edit system} hierarchy level

```

FIGURE 19b

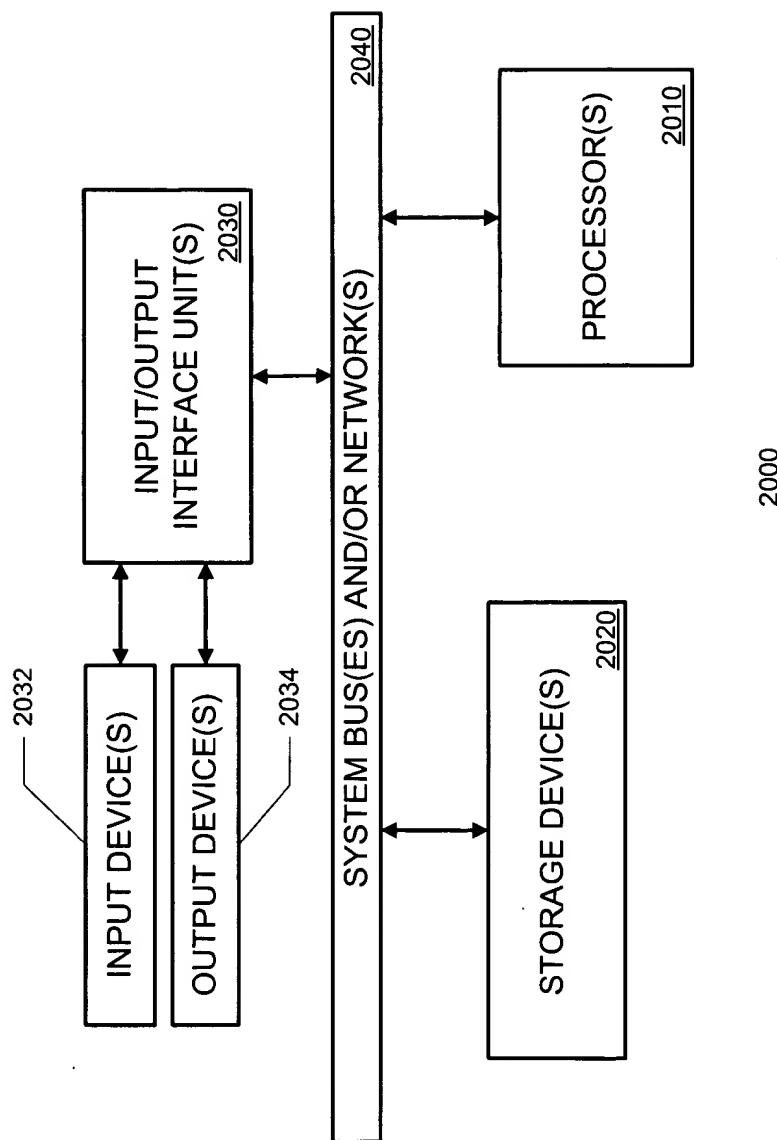


FIGURE 20